

## **WHAT IS CLAIMED:**

1. A method of controlling a lighting device comprising the steps of:

supplying pulse trains during normal operation, the pulse trains having  
characteristics to determine the intensity of the lighting device; and  
causing the pulse trains to be:

blocked in response to an overload condition, and  
modified if said overload condition persists.

2. The method of claim 1 where said blocking is done in hardware, and said  
modification is accomplished in software.

3. The method of claim 2 where said blocking is done for a defined time interval,  
and said modification is done if the overload condition persists after a defined number of  
blocking cycles have been executed.

4. The method of claim 3 where said defined time interval is one switching cycle of  
the driving pulses.

5. The method of claim 3 where the modification comprises at least one of pulse  
width modification, frequency shift control, or shut down.

6. The method of claim 4 where the modification comprises at least one of pulse  
width modification, frequency shift control, or shut down.

7. The method of claim 5 where the modification comprises at least one of pulse width modification, frequency shift control, or shut down.

5 8. The method of claim 6 where the blocking is accomplished using logic gates.

9. The method of claim 7 where the blocking is accomplished using logic gates.

10 10. The method of claim 5 where the blocked signals are DC voltages, and the lamp driving pulses are AC voltages.

11. A method of providing fault protection to a circuit comprising:  
filtering transient from nontransient fault conditions;  
modifying circuit output in the event of a nontransient fault condition.

15 12. The method of claim 11 further comprising fully protecting the circuit during transient fault conditions.

20 13. The method of claim 12, where said fully protecting the circuit during transient fault conditions further comprises an immediate response to said transient fault conditions.

14. The method of claim 13 where fully protecting the circuit during transient fault conditions comprises blocking the driving signals from the

load.

15. The method of claim 14 where modifying circuit output comprises a least one of .  
pulse width modification, frequency shift control, or shut down.

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16. The method of claim 12 further comprising an insignificant or imperceptible effect  
on the load performance during said transient fault condition protection.

17. The method of claim 13 further comprising an insignificant or imperceptible effect  
on the load performance during said transient fault condition protection.

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18. Apparatus for providing fault protection to a lighting device, the apparatus  
comprising:  
a controller which blocks the light driving signals in response to a fault condition,  
and modifies said driving signals if said condition persists.

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19. The apparatus of claim 18 further comprising hardware arranged to cause said  
blocking upon the detection of a fault condition.

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20. The apparatus of claim 19 where said hardware comprises logic gates.

21. A circuit for controlling a lighting device comprising:  
a pulse generator for generating at least one pulse train having parameters  
indicative of a power level at which said lighting device should operate;

at least one logic gate to block said pulse train upon hardware detection of a specified fault condition; and

a microprocessor for executing software that causes said pulse generator to operate in accordance with user control to set the parameters of said pulse train if said fault condition persists.

22. The circuit of claim 21, where said blocking of said pulse train comprises blocking the driving signals to the pulse generator.

23. The circuit of claim 22, where said driving signals to the pulse generator comprise DC voltages, and the pulse generator outputs an AC voltage.

24. The circuit of claim 22 where the blocking of the pulse train is for a user defined short time interval.